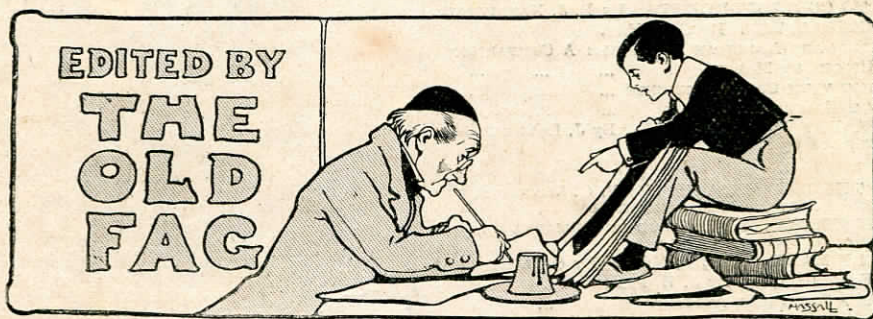


# THE CAPTAIN

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FOR BOYS & "OLD BOYS".



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## THE FREE WHEEL AND ITS FUTURE.

THOSE of you who have had a monthly chat with me in this corner of ours from the very outset, will remember that I long ago pronounced emphatically in favour of the free wheel. I believed in it from the moment I saw it first applied to the modern safety—for, as you know, it is a very old device as fitted to tricycles—and, after various trials with somewhat numerous varieties of it, I have seen no reason to modify the opinion originally formed—that is to say, not in essentials. I still think the ratchet class of devices superior to those embodying the clutch principle. I still think effective ball races essential, and that those designs which do not provide them are something short of efficiency. I still think rim brakes the best for the purpose of controlling a free wheel machine, and I still would emphasise

### THE NECESSITY OF HAVING TWO OF THEM,

one on each wheel, so that if one should go out of order at a moment of emergency, there may always be the other to fall back upon.

But in certain minor matters I have learnt more than I knew when I wrote upon the subject last. I then objected to what has come to be known as an “any-point” brake—that is to say, a pedal-actuated brake so contrived that it can be put on by backing the pedal at any point in the circle of revolution. The view was a cautious one, and was expressed largely in the interests of novices who cycled, but who had not previously free-wheeled. The danger to them lay chiefly in the inherent instinct to back the pedals at all moments of crisis. Many of the earlier pedal-actuated brakes were of a nature to go on so suddenly that any rider accidentally or in-

voluntarily applying one would be so unprepared for the consequences that he would in all probability

### BE TREATING HIMSELF TO A “HEADER.”

It was partly for this reason that I thought a two-point brake the best. Partly, also, there came in the consideration of coasting with feet at rest, and the dangers that might arise from a jerk caused by passing over an unexpected stone. All stones and other unevennesses are in this sense unexpected when one is riding in the dark. Now most of the good two-point brakes are arranged to go on as the result of the pushing back of either pedal at a point a short segment to the rear of the lowest portion of the circle. The correct style of free wheel coasting is with the two feet on about the same horizontal level—something like the position when one is sliding upon ice—and not with one foot up and one down, like a roosting stork. Hence it follows that a rider coasting correctly might sustain a pretty sharp accidental shock without either foot being jerked so far as to involuntarily lock the brake.

I use the word “lock” advisedly, because when I wrote with such caution as I used on the last occasion,

### I HAD IN MIND A TERRIBLE BRAKE,

which had just been submitted to me for inspection. It would go on with the smallest back-peddalling impulse, almost at a touch. Once on, it would almost certainly skid the wheel, and most of my strength was required to get it off. This latter could only be achieved by very vigorous forward pedalling; and, mark you, this vigour could with difficulty be mustered, when the force of momentum of



one's own body was tending to carry one over the handle-bars, so that one's weight could not be properly utilised in pedal pressure. I had dangerous devices of this class before me when I roundly pronounced against the whole crowd of any-point brakes. Since then an enormous number of inventions have been offered to the public, and many distinct advances have been made. One of them has only come under my notice quite recently, but I am so well pleased with it in theory that I have determined to give it a lengthy trial. It is called the

"UNIVERSAL" AUTOMATIC COASTER AND  
BRAKE.

It hails from the United States, as any practised eye could detect at the first glance, and for neatness, lightness, and apparent business-like efficiency, it seems to embody most of the virtues that one looks for in a good free-wheeling and braking device combined. The chief agents for it in this country are Messrs. Markt & Co., of 20, Chapel Street, Wilton Street, London, E.C.—a firm long identified with the importation of good American novelties and cycle accessories. Those of my readers who live in the Midland counties, or in Lancashire or Yorkshire, may obtain information from the chief agent for these regions—Mr. B. E. Dickinson, Toledo Works, Aston Brook Street, Birmingham.

In speaking of the merits of this invention, I must emphasise at the outset my confirmed preference, on purely mechanical grounds, for rim brakes as compared with hub brakes. Inasmuch as the one under discussion is a hub brake, it falls, in my view, something short of the ideal. But that having been premised, I have thus far nothing but good wishes to offer it.

THE QUESTION OF WEIGHT IS NOT, OF COURSE,  
OF THE HUGE IMPORTANCE

which cycle manufacturers and dealers tried to make it a few years ago. But it is still of some importance, especially in a day when the refinements of cycling convenience and luxury have led to the addition of almost innumerable knacky accessories to the machine. Now, in point of weight the automatic coaster very distinctly scores. Its dead weight on my spring balance is 2lbs. 4ozs.; and remember that it is destined to replace an ordinary substantial back wheel hub, and to dispense with the necessity of a pair of strong front fork foot-rests. That is the way of looking at the case when the conversion of a captive wheel to a free is in contemplation. But when the merit of light-

ness is considered as between this and various other forms of free wheel, we must, of course, remember the weight of the back rim brake. This is all saved by the present device, for there is a powerful brake applicable inside the rear hub.

The hub is not large enough to look ungainly, although

ITS PROPORTIONS ARE NECESSARILY SOME-  
WHAT GENEROUS

in order to afford housing room for the ingenious mechanism concealed within. It consists of twenty or thirty parts, if the balls be included in the enumeration, and sufficient room is allowed for every component to be made large enough and strong enough to do its work. The forward drive is instantaneous, and the curious clutches by which this merit is attained go quite as instantaneously out of action the moment pedalling ceases. The freedom of the wheel can thus be enjoyed at all moments when its advantages are desired. While this is so there is still a possibility of applying the brake practically instantaneously, and yet there is hardly any danger of its going on when that would be dangerous. This is because the amount of "back-lash" allowed for is equal to about an eighth of a revolution of the crank, so that it is extremely unlikely that any chance unevenness in the road will be sufficient to jerk any experienced rider to such an extent as to cause him to inadvertently apply the brake. When he puts it on deliberately it is very powerful, and its method of release is admirable. Here you have a brake which can be gradually "fed" on—a virtue I spoke of in an old article on the subject of brakes as being indispensable to the perfect brake—and yet, however hard on it ultimately is,

YOU HAVE AN INSTANTANEOUS AND  
AUTOMATIC RELEASE,

which throws the wheel free again at once.

On the whole, it is as neat a thing as I have ever seen, but I feel bound to discount this eulogy by saying that for the present I only speak of it as a theorist, and that I am still convinced, as I have said before, that a rim brake is better than one which acts at the hub, where leverage is very considerably less, and where it is consequently necessary to exert a much greater wrenching strain upon the spokes in order to obtain the desired retarding effect upon the machine. With this, as with all other brakes, the art of using it to the greatest advantage consists in applying it as gradually as circumstances will permit. There are, of



course, emergencies in which it may be necessary to clap it on at full pressure at once; but unless this is absolutely required by the exigencies of the moment, it should never be done. The feeding-on process is the most advantageous. In this way a long coast may be achieved at a most exhilarating speed and in perfect safety.

Of course, there are plenty of brakes which can be fed on with care and graduation. I named a number of good brakes in an article on the subject some time ago, and other brakes have from time to time been recommended since. Similarly, it must not be supposed by any who have not seen former articles of this series that there are no other good free wheels than the one I have been talking about. There are many. In fact, you could hardly name a firm of repute that will not to-day supply an excellent one if asked to. You can trust any of

the really tip-top firms to give you a good free wheel and adequate brake-work. The Swift, the Singer, the Sunbeam, the Royal Enfield, the Rover, the Rudge-Whitworth, the Elswick, and a host of others that might be catalogued, are all the names of stuff upon the makers of which you can absolutely depend. Then there are devices such as those of Messrs. Riley & Haigh, of Manchester, and of the Bradbury people, of Oldham, both of which allow of the wheel to be made free, or to be kept permanently captive should the rider so desire. Much is to be said for an arrangement of this kind in the case of a cyclist who is timid about trying a free wheel. There are instances in which riders have been induced to make the change, and have, after a period of perseverance, come to the conclusion that the free device is beyond their appreciation and enjoyment. Such cases are well met by the class of inventions of which the Bradbury "free wheel at will" is an admirable type. My belief is, however, that most who experiment with such an invention will before long decide to keep the wheel set permanently free. I have before me the new season's catalogue of the New Premier cycles. These must certainly be added to the list given above. The makers of them supply sound machines, ranging from a boy's mount at £8 10s., and a girl's at £9, to tricycles at over £20. Their best bicycles are £21, but the Royal roadster at £16 16s., with £2 extra for a good free wheel on the ratchet

principle, is a splendid thing. There are in the price list a few other extras which are optional, but from among which I should recommend the purchaser to select a gear-case, if he is having one of the cheaper mounts not so fitted.

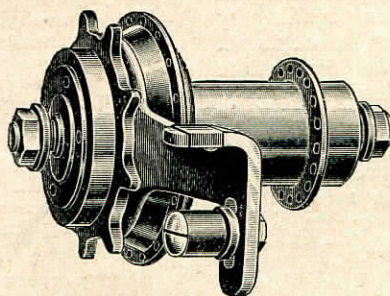
A friend of mine tells of a splendid down-rush he once enjoyed in the Engadine, which extended to nearly thirty miles. It is true that

#### HE HAD TWO DAYS OF PUSHING

to get the tandem, on which his wife and he were touring, up to the requisite altitude from which this could be enjoyed; but he told me that the experience was almost worth a week of such trudging. I have never had so long a coast myself, but I know one favourite bit of unbroken downhill which for three miles is as smooth as a billiard table, and when fitted with really good brake-work I enjoy dropping down it

in eight minutes. The thing is perfectly safe if you keep your head cool. Your eyes are far ahead, eager to anticipate by as large a margin of time as possible any danger or difficulty that may arise. You gauge the acuteness of each bend or turning, and arrange to arrive at it at just such a modified rate of speed as will allow you to round it without too risky an amount of inward lean. At times when you see the course quite

clear and straight you release the brake-work altogether, but even then you have, if you are wise,



"UNIVERSAL" AUTOMATIC COASTER AND BRAKE.

#### TWO FINGERS ON THE BRAKE-LEVER AND ONE ON THE BELL,

so that with whatever unlooked-for eventuality you may be by chance confronted, no one can accuse you of not exercising proper care.

I never rush in this way through good scenery that is new to me, nor would I advise anyone else to do so. It seems like throwing away a golden opportunity. But on an old familiar hill I know of few delights to equal it. It is for this reason that I am one of those who believe that the free wheel has not only come to stay, as the saying is, but that it is destined to become universal for all road work. Many have roundly declared that it must of necessity be absolutely useless on the racing track; but even here I do not think that their logic goes far enough. No racing man who rode a free wheel could retard himself as much by faulty pedalling as he can



with a fixed wheel. It is true that in either case it is possible for him to work against himself by pressing on the rising pedal. But the difference is this: if this action is carried to its extreme it will bring a fixed wheel to rest, whereas in the case of the free wheel it only results in cutting off the driving force, the onward momentum being still retained by the machine and rider.

One final word as to the misuse of the free wheel.

RIDERS OUGHT NOT TO "SHOW OFF" WITH IT.

There is, no doubt, a temptation to announce to the whole street that you are possessed of the up-to-date thing, but that, after all, is somewhat childish. The habit of giving two or three pedal strokes and then sailing for a dozen yards not only fails to impress the onlooker, but positively irritates him. At the same time, it tends to rob the rider of that facility of even, light, and regular pedalling by which alone the best results can be obtained. It is all right to free the wheel when the scarcely perceptible bits of decline are encountered, the whereabouts of which in his own district every free-wheeler has learnt to locate. But it is not proper to free the wheel simply to show that you are able to do so, and the excessive use of this delightful option should be reserved for such glorious downrushes as I have referred to.

#### ANSWERS TO CORRESPONDENTS.

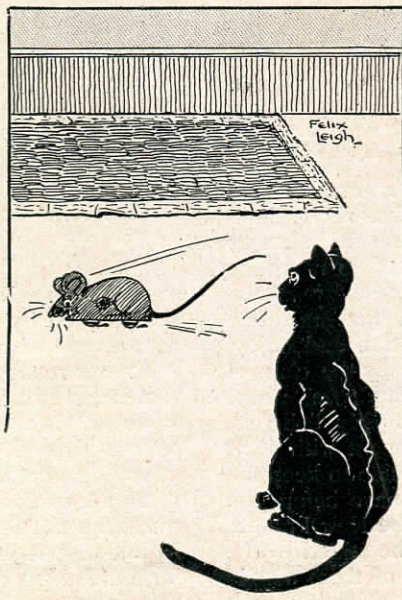
**Elsie (NOTTINGHAM).**—If you like your brother's two men friends, and if your parents are agreeable, there is not the slightest reason why you should hesitate to take rides with them. No wonder you didn't find it in the etiquette book. Publications

of the kind belong to an age when there was no glorious pastime with the freedom of cycling as its attribute, and I hope they may either reform or be relegated to a forgotten limbo. **MISS K. (GREENOCK).**—You will not find that cycling will in any way interfere with your piano playing, unless, of course, you allow it to absorb too much of your time. The vibration won't make you nervous, but, on the other hand, you will find that the exercise, taken properly, will prove one of the best nerve tonics imaginable.

**E. M. B. (LEOMINSTER).**—I am always glad to give a girl information, but you ought to keep the rules, and give me your name, instead of your bare initials. I do not publish names, but I expect to have them as a matter of courtesy, and, if not furnished with them, do not feel under obligation to reply. You could have your bicycle re-enamelled at all sorts of prices, from about half a sovereign upwards, but if you want it done in green and gold it will cost almost double that. Nickelling is not very costly, unless there is an excess of bright parts. I have before me a quotation from a well-known firm for re-enamelling and re-nickelling my own mount, the figure of which is £1 6s. Yours is a splendid make, and you had better inquire from Singer's whether they will give your local repairer a new transfer. If not, let Singer's carry out the renewal; they will probably be quite as reasonable, only that you will have the carriage to pay both ways. You can get a pair of decent handle-bars for five or six shillings. As for tyres, if the machine has still plenty of life in it, get Dunlops, or Clinchers, or Palmers. If not, and you think it prudent to try a cheap tyre, you will find the Radax a good investment. **H. E. B. (KENLEY).**—Yes, I do think two brakes essential to every free-wheel machine. One of the cheapest and best is the compensating brake described in the November

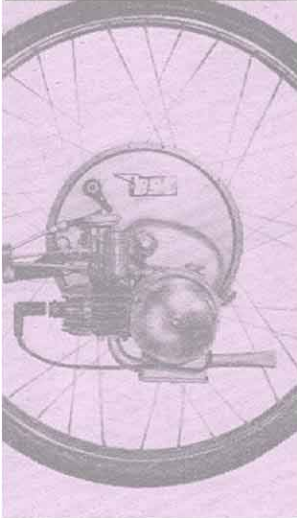
number. Write to Messrs. Morgan Bros., Ltd., Floodgate Street, Birmingham. Buy Bartholomew's maps, of a scale not smaller than four miles to the inch. The lin. ordnance maps afford an excellent means of indulging in more detailed study. Perhaps Lucas's "Acetylator" is as good a one as you could try. The new illuminant has the advantage of cleanliness, but is not always trustworthy.

H. P.



"WELL, WHATEVER THE GEE-GEES DO, I'M  
NOT GOING TO SHY AT A MOTOR."

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